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DICTIONARY

[Look up]

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[Look up]

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Pronunciation Key

\&\ as a and u in abut
\ͣ\ as e in kitten
\&r\ as ur/er in further
\a\ as a in ash
\A\ as a in ace
\ä\ as o in mop
\au\ as ou in out
\ch\ as ch in chin
\e\ as e in bet
\E\ as ea in easy
\g\ as g in go
\i\ as i in hit
\I\ as i in ice
\j\ as j in job
\[ng]\ as ng in sing
\O\ as o in go
\o\ as aw in law
\oi\ as oy in boy
\th\ as th in thin
\[th]\ as th in the
\ü\ as oo in loot
\u\ as oo in foot
\y\ as y in yet
\zh\ as si in vision

_Thesaurus Results

**Merriam-Webster's
COLLEGIATE THESAURUS**

2 words found.

To view an entry in the list, highlight it and click on GO TO.

[DICTIONARY]

[GO TO ▶]

aggregate[o] ▲
aggregate[n] ▼

Entry Word: **aggregate**
Function: *vb*
Text: Synonyms <u>AMOUNT</u> 1, add up, come, number, run (to or into), sum (to or into), total

Entry Word: **aggregate**
Function: *n*
Synonyms: <u>WHOLE</u> 1, all, be-all and end-all, entirety, gross, sum, sum total, total, totality, ||tote
Text: 1 a mass or body formed of particles or parts that retain their individuality
Antonyms constituent, element
2
Antonyms individual, unit; particular
3

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Coming soon to an office near you: 1999 trends
Inform; Silver Spring; Jan 1999; Tom Dale;

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Abstract:
Looking ahead through 1999, members of AIIM's Emerging Technologies Advisory Group (EmTAG) discuss technology trends and business issues that users should know about. The following list details the EmTAG's Top Five Emerging Technologies as we enter 1999: 1. integrated records management with line-of-business processes, 2. Internet development tools, 3. integration of Office with Web authoring tools, 4. high speed networking, and 5. storage area networks. EmTAG's top five management concerns for 1999 are: 1. managing email, 2. electronic commerce, 3. knowledge management, 4. records migration, and 5. customer relationship management.

Full Text:
Copyright Association for Information and Image Management Jan 1999
[Headnote]
Technology Trends and User Concerns
Looking ahead through 1999, members f AIIM's Emerging Technologies Advisory Group discuss technology tre s and business issues that users should know about.

The information industry has encountered tremendous technological progression in digital document imaging, workflow and work management, document management (DM). and now knowledge management (KM). Adopting

organizations have become more sophisticated purchasers with increasing focus on the business case, including strategic and performance considerations. Small and midsize organizations now embrace business process and DM technologies. 1999 promises to be another year of increasingly rapid change in the information industry.

AIIM's Emerging Technology Advisory Group (EmTAG) has evolved from a task force focused on investigating emerging technologies to one focused on both technology and organizational issues associated with technology adoption. We identify the pressing business concerns that describe technology-associated problems that organizations encounter. One chief area in which the EmTAG has noticed increased attention is records management. Let us look ahead to 1999 to see what technologies and business concerns lay on the horizon.

The following list details the EmTAG's "Top Five Emerging Technologies" as we enter 1999:

Senior executives have become aware of records management issues. Civil proceedings and regulatory rulings have raised attentiveness to records management within the U.S.-organizations outside the U.S. did not arbitrarily separate information technology and records management and, hence, face far less of a burden. Even the Wall Street Journal frequently touts the damage that unsafe records management can bring down on a firm. One organizational imperative has been to practice records management as part of the normal course of business, with software coming into the market which allows just that. For more detail, see Deborah Skaggs' article on page 35.

Who hasn't been affected by the Internet? The Internet continues its development as a communications medium. All organizations, both commercial and government, are facing pressure to make their business processes electronic and available via the Web. Organizations face the challenge of interfacing legacy business processes with the Web, and development tools increasingly recognize the need for integration. Internet development tools have improved dramatically, facilitating Web-based interfaces to existing business processes. These tools center around Java. Java is viewed as a way to control the behavior of server-based applications, whether legacy or new.

Microsoft's Office has garnered first place in market share for office suites. Office 2000 will include an option to use HTML as a native format. Microsoft has embraced the XML standard, and will use eXtensible Markup Language (XML) for objects, such as charts and revision marks, to preserve formatting and layout when using HTML. Users will be able to post documents to a Web server or store on their local hard drive. Office documents will become viewable through a browser. We see in Office tremendous end user capability. It's becoming an Internetenabled world. And do we really want anyone in our organization to be able to publish? David Weinberger takes a closer look at changes in publishing office documents on page 38.

High-speed, low-cost networks loom on the horizon. I look at it from the perspective of video rentals. With the Internet marching the way it is, bandwidth for a two-hour movie will cost less than renting a video. When? We on the EmTAG think soon. Networking technology is undergoing something equivalent to Moore's Law, which describes the doubling of transistor density every 18 months. Translated to English, Moore's Law means that we will get about 33 to 34 percent price-performance improvement every year. Expect the same now from telecommunications. Many of us in the U.S. now pay less than 10 cents per minute for long distance calls - regardless of time of day. Look also at local area networking technology. Fast Ethernet, at 100 Mbps, is only marginally more expensive than 10 Mbps Ethernet. And Gigabit Ethernet is coming soon. On page 42, James Watson provides us with more details regarding the shifts occurring with networking technology.

Demember the days of the 20 MB and 40 MB hard drive? My new PC has 16.8 GB - and I wish that I had waited a week. The mass market associated with magnetic technology has driven down the price for magnetic mass storage, and placed 5.25-inch and larger optical disk formats on the ropes. Two storage technologies appear to be gaining critical mass; 1) network-attached storage, and 2) storage area networks (SANs). The EmTAG believe that with the proliferation of the Web, SANs will become an increasingly important part of system architectures. Chuck Cary takes a closer look at SANs on page 40.

EmTAG's Top Five Management

Concerns for 1999:

Managing e-mail,

E-commerce,

Knowledge management (KM),

Records migration, and

Customer relationship management.

Managing e-mail. This has become an organizational nightmare. The rapid growth of installed e-mail seats of Lotus Notes and Microsoft Exchange attest to email's growing ubiquitousness. Just as word processors now let us create documents that may not be under records management control, e-mail allows communication with anyone, anywhere, regardless of corporate hierarchy. And, as ⓘMicrosoft has learned, e-mail is discoverable. Developing policies and procedures for e-mail communications has become important. Organizations will increasingly be challenged to preserve the context of e-mail communications, not to mention documenting their decision processes.

E-commerce. Broadly defined, Ecommerce is a financial or commercial transaction that occurs via **electronic** means. E-commerce means bits, bytes, and speed. E-commerce means that paper becomes less important. **Electronic** bill presentment and payment (EBPP) is thought by many to be the Holy Grail of E-commerce. Many consider an invoice one of the most important pieces of content. ⓘMicrosoft has forged an EBPP joint venture between itself and ⓘFirst Data Corp called MSFDC, www.msfdc.com. In the U.S., consumers pay some 18 billion bills annually. MSFDC has estimated that the billing and remittance processing in-house can cost anywhere from $1 to $10 per invoice. We can see market impetus behind EBPP. Ecommerce tools include the Internet, EDI, e-forms, workflow, e-mail integration, **electronic catalogs**/databases, procurement cards, **digital signatures**, **digital** certificates, EBPP architectures, to name just a few.

Knowledge Management. It appears that KM addresses the next stage in our information technology evolution. Peter Senge's The Fifth Discipline: The Art & Practice of the Learning Organization sets the stage for KM. The industry now has two publications focused specifically on KM - KMWorld and Knowledge Management Magazine. Will KM suffer the same fate as business process reengineering (BPR)? Well, not if the Knowledge Management Consortium (KMC), www.km.org, has anything to do about it. The KMC aims at reducing the confusion around KM. The KMC has nine standards projects under development. All nine projects will be developed in cooperation with AIIM.

Records Migration. Organizations maintain records for legality or memory. As technology changes rapidly, many applications and file formats in vogue just a few years ago have gone by the wayside. Technology is being constantly refreshed. As organizations adopt and implement new technology, the challenge of migrating records looms important, and the issue of electronic archival (life-cycle digital asset management) emerges. Many organizations that have previously disdained microfilm now look to it as a medium to guarantee perpetual access to documents and avoid major migration challenges.

Customer Relationship. Today, the customer is king/queen. Organizations are realizing that and looking for tools to better manage their relationships with customers. Customers today demand more. Organizations are looking to provide their customers preferential treatment based on their history, easy transactions, and regular communications. It's all about customer retention.

While necessarily brief, we on the EmTAG hope that this look-ahead helps you both in understanding today's information industry and planning for your future. i

[Sidebar]
Other Emerging
Technologies:
* E-commerce tools
* Voice recognition
* Categorization tools
* KM modeling
* Enterprise Resource Planning (ERP) integration
* Full motion video

[Author note]
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⚑ BACK TO TOP

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InfoWorldAugust 7, 2000

Eliminate Web publishing bottlenecks - Documentum 4i eBusiness puts updates in the hands of content owners, boosting efficiency and lowering costs.(Software Review)(Evaluation)

Author/s: Mike Heck

AS NOTED IN the accompanying Test Center Analysis on electronic document management systems, enterprises face huge content management challenges -- not just in administering volumes of documents but also in getting this material online and keeping it up-to-date.

Documentum 4i eBusiness Edition 4.0 provides a first-rate solution for large-scale content management. Global 2000 and Internet companies will find this product moves content quickly from authors, through approvals, and onto live Web sites, allowing e-businesses to respond quickly to changes in the online marketplace and deliver timely, relevant information to customers and business partners.

Offstage, Documentum 4i eBusiness Edition comprises various server and publishing modules that handle workflow, provide easy document editing by end-users, deploy content to large server farms, and integrate content with personalization services such as Macromedia LikeMinds, Net Perceptions Recommendation Engine, and E.piphany RightPoint.

Understandably, the acquisition cost and implementation time of such a sophisticated solution can't be dismissed. Then again, today's ebusiness environment demands that you find ways to publish critical content quickly and efficiently. Because Documentum 4i eBusiness Edition 4.0 does this so well and also has most other components needed to fuel online sales and business-to-business information exchanges (such as document conversion into multiple languages), it scores Very Good.

Speeding time to Web

Documentum's engineers set up the 4i eBusiness Edition system in the InfoWorld Test Center Lab as they would for any client -- a process that required a few days for software loading and quality testing. Once the dual-Pentium III server running Windows NT 4 Server and an Oracle 8 database was turned over to us, I tested administration and Web publishing remotely to evaluate how the system would perform in a typical enterprise setting.

Because many organizations will transfer current Web sites into the Documentum environment, I started by importing a site initially built with Macromedia Dreamweaver 3. The ftpintegrator, a very useful utility that works with any Web authoring tool, transferred existing files to the 4i eBusiness Edition repository without any difficulty.

Setting up workflows, which are fundamental to getting content online efficiently, was my next testing milestone. Documentum 4i eBusiness Edition ships with two default processes that can be easily customized with the graphical Workflow Manager. You simply drag and drop objects to, say, add or delete steps such as intermediate management reviews. Similarly, you can spawn other processes when a file passes final approval, such as generating an Adobe Acrobat version of the original document.

With site setup and workflows done, I kicked off several update scenarios to verify that the system reduced the time and effort required to publish new content or updates. As manager of a Web site for business partners, I wanted to have a new OEM listed. So I used Documentum's Web interface to locate and mark the existing file, note the necessary change, and submit the request to the original author. I especially liked Documentum's powerful search function, which quickly located the file requiring updating.
The author then received a link to the specific file and quickly launched the WebPublisher Editor tool to add the requested new text and links. After he submitted the change, the workflow module routed the revision through the approval process and then from the staging server to the live Web server. In all, the entire process required just a few minutes. Of course, administrators may insert additional checkpoints if desired. For example, to prevent premature news releases or leaks of price changes, you can specify the dates and times for certain files to go live.

Similarly, creating new pages requires very little experience. Using predefined XML templates presented within a Web form, I selected the appropriate page header and footer and formatted the body of the page using a word processorlike interface.

The WebPublisher Editor is designed specifically for nontechnical workers, such as marketing or administrative staff. Thanks to the predefined templates for adding or modifying content, design standards are maintained across the entire Web site. And yet, administrators can grant users some flexibility. For example, each template may include lists of approved headers, images, and other

page elements from which to choose. Additionally, the editor provides a WYSIWYG view of the content, eliminating the extra step between converting documents into HTML and then checking their layout for accuracy.

If the aforementioned was all this product accomplished, I'd rate it Good. But testing revealed that 4i eBusiness Edition has many characteristics that competing products lack, which boosted its score. For example, the Content Personalization Service (CPS) examines new or updated files and, based on their content, automatically inserts meta tags. The inclusion of accurate meta tags vastly improves site searching capability, and it's especially useful if you're running 4i eBusiness Edition along with a third-party personalization engine because these engines are not effective without accurate tags. CPS can even automatically categorize files and put them into the right folders within your site.

I was equally pleased with Documentum's site maintenance functions. For instance, the administrator's Web interface let me maintain different versions of the files, modify the site's folder structure, and even create several editions of the entire site without much effort.

Because 4i eBusiness Edition dovetails nicely with existing business processes, puts content management back into the hands of owners, and scales up for large enterprises, it would make a very good choice for content management at companies where dynamic updates are business- critical.

Contributing editor Mike Heck (mike_heck@infoworld.com) spends his days building Web and intranet sites at Unisys, in Blue Bell, Pa.

THE BOTTOM LINE: VERY GOOD

4i eBusiness Edition 4.0

Business Case: This Web content management solution helps lower the costs of maintaining large-scale Web sites. The system enables content owners to handle updates, which improves productivity, and its workflow capabilities speed content review. Timely updates promote online purchases and improve site stickiness.
Technology Case: Documentum's template-based XML-authoring environment permits documents to be repurposed for different needs. The WebPublisher module moves content through a formal approval process and provides a tailored work view according to the role of the user. Enterprise scalability allows deployment to large server farms.

Pros:

+ Nontechnical users can create and publish content

+ Extensive workflow management

+ XML templates accelerate site updates

+ Integrates with third-party ERP (enterprise resource planning), e-commerce, and target marketing tools

Cons:

- Somewhat costly

- Setup may require vendor assistance

Cost: $200 to $600 per seat or $7,000 to $80,000 per CPU

Platform(s): Windows NT 4.0, Windows 2000, Sun Solaris, HP-UX

Documentum Inc., Pleasanton, Calif.; (800) 362-3367;
www.documentum.com

Building Web Sites Using Dynamic Templating.(Brief Article)

Author/s: Darlene Fichter

Dynamically templating saves a lot of time, especially in redesigns.

Remember the excitement of publishing your first Web page and your first site? It was a chance to be creative--to apply a new skill. You probably made each page one after another with an HTML editor or entered tags by hand in Notepad editor.

Over time, your small Web site has grown. It is harder to maintain and update. Any major redesign requires editing each and every one of those pages which is very time-consuming. Consciously or unconsciously, you start to hold back on site improvements and/or redesign, as each new idea must be carefully weighed against the time to implement it.

You have noticed sites that seem to change monthly and their design and user interface is evolving and changing. What's their secret? You know there has to be a better way. What should the savvy Webmaster do?

The answer is simple--savvy Webmasters are using dynamic templating techniques. Despite its exotic sound, dynamic templating is not hard to do and every Webmaster can take this approach with his or her site. Let's examine some solutions and work our way up in power, complexity, and price.

WHAT IS TEMPLATING?

Templating is the separation of content from the common page elements, such as the top logo or header area, side menu, and footer area of the page. With templating, you have the ease of frames on your site without any of the negative side effects. Consider the CNN [http://www.cnn.com] Web site shown here. The

page layout has five main areas:

1. top or header area of the page

2. left-hand topical menus that remain consistent within a particular area on the site, the news story or headlines in the center block of the screen

3. the content or articles are in the middle column

4. the "related stuff" to the content is stored on the right column

5. a footer area that spans the bottom of the page

Each area could be stored separately and dynamically merged into one HTML page at the time the user requests it. This works much like a mail merge in your word-processing package. For example, all of the Web pages within the CNN Space area could reference and reuse the same Space header file. As the Web designer, you could update the header graphic and text for Space header file and voila-- the thousands of pages immediately use the revised header file and display the new design.

Dynamically templating saves a lot of time, especially in redesigns. It also allows authors to focus on content while ignoring all the other page elements, which will be taken care of by the Webmaster.

Server Side Includes (SSI) and Active Server Pages (ASP) are two of the easiest ways of adding dynamic templating into your site. Almost every Web server supports either SSI or ASP. SSI is commonly used on UNIX-based Web servers while ASP is used on Windows platforms.

SERVER SIDE INCLUDES

SSIs are simple and powerful. They get the templating job done, but offer none of the high-end processing of some of the sophisticated solutions discussed later in this article.
You create an SSI by inserting special HTML tags into the Web page in places where you would like the header, footer, and any other page elements to appear. Whenever a user requests a page from the server, the page is created on-the-fly by merging two or more files.

SSI statements look like html comments. They begin with [less than]!--# and end with-[greater than]. In the SSI example box, the Web page, home.html, would be created from the files header.html, home.html, and footer.html. The header file could contain a site logo, the side menu, and the body tag and link to an external style sheet. The footer could contain copyright statement, feedback button, and a link to the home page.

When a visitor's browser requests home.html, the Web server responds by merging the contents of the header and footer files into home.html and rendering the HTML for viewing in the browser. If every page on the Web site used the same SSI to include the logo and side menu, then you could edit just one header file, which updates the whole site.

Example 1 also shows how Server Side Includes can be used to insert content into your Web page based on variables. (see "SSI in home.html" box.) In this case, the current date is inserted into home.html. This is commonly used to add "Last Updated" to the end of your html pages.

EXTENDED SERVER SIDE INCLUDES

Some Web servers, such as Apache, support Extended Server Side Includes and offer more powerful options for dynamic templates. With Extended SSI, you can set variables and use "if then else" statements. You can set a variable that will equal the value of the current directory name. For instance, if the current directory is the root directory, show the large logo. If it is a subdirectory, show only the small logo.

A very common use of Extended Server Side Include is to test the user's browser type and then offer a different version of the site depending on their browser. (See the "XSSI for Detecting Browser Type" Box.) Inside each header file, you could have different HTML as well as different cascading style sheets tuned to work with each browser.

While there are a few ways to set up SSIs on a Web server, the simplest is to have the Web server configuration changed to allow all files in the area where you use SSIs to be automatically processed and executed.

Disadvantages

If you have a lot of different elements to include, then the Web server may become loaded down. In reality, this is only a problem if the traffic is very high or your Web server is already overloaded with other tasks.

SSIs have another drawback. They do not support as complete and sophisticated programming logic as a site created on-the-fly from a database.

ACTIVE SERVER PAGES

Active Server Pages (ASP) are similar to SSIs in many ways. They are HTML pages with embedded scripts, usually VBScript or JScript. ASP pages are more powerful than SSIs and are similar to CGI

scripts. VBScript allows Web developers to utilize a full range of programming logic when creating an HTML page.

ASP page uses [less than]% and %[greater than] as delimiters around scripts. These delimiters are used to separate the HTML content of the page from the script content. In the "ASP:home.asp" example, header and footer files are merged into home.asp at the instant when the page is requested by the Web browser. Just as with SSI, ASP files can also test for the browser type and set this as a variable. For example:

[less than]% userAgent = Request.ServerVariables ("HTTP_USER_AGENT") % [greater than]

Based on the type of browser requesting the page, you can provide alternative displays of information, eliminate certain elements of a Web page altogether, or even redirect users to a different page.

Disadvantages

ASP pages can also put a load on your server if many elements are referenced on each page. Depending on the sophistication of your programming logic, extra time may be required to process the request. Usually, load is not an issue since most requests can be handled in a fraction of a second.

ASP script may present problems for some HTML editors. For example, if you use an HTML editor with an "attitude" where it assumes that it knows best how you want to code your pages, it may start "correcting" (read breaking) your ASP code and HTML. There usually is a work around--either tweaking your ASP code so that it doesn't trigger the HTML editor or embedding your code as an object.

STATIC TEMPLATING SOLUTIONS

Sometimes it can be very convenient to pre-generate your pages from a template rather than doing it for each request. This is especially true if a page or set of pages is heavily used. Your intranet news may receive thousands of views per hour and may be a good candidate for pre-processing.

In a static templating solution, you create relatively simple pages with some special commands, much like SSIs. A program takes these pages and merges them with a template file to create a series of consistent, static, Web pages. It's just like a mail merge. These programs are often called HTML pre-processors.

HTML pre-processors have several features that make them handy to use. They often use symbolic names rather than file names so you can easily move files around and not break links. Templates can easily be adjusted and pages regenerated for a fast change in

appearance. Pre-processors allow you to define your own tags and this can give you added power to structure and embed repetitive text in your document.

Pre-processors can be written as a custom program for a site. Often a development site with low use may have dynamically-generated content, but the "published" version may be processed and written as a static page.

There are free tools that you can download:

* HTML Plain (http://artho.com/webtools/plain/)

* ht Preprocessor (http://www.wdvl.com/Software/Perl/HT.html)

* htmlpp--The HTML Preprocessor
(http://www.imatix.com/html/htmlpp/index.htm)
Advantages

Pre-processors are excellent for quickly redesigning large numbers of HTML documents. As a Web developer, using a pre-processor is completely in your control and does not require any special Web server configuration or access. It is an inexpensive solution. Pre-processing your pages help the Web server with load. It is easy to provide alternative displays of your sites such as a version for the visually impaired.

One of the key advantages of the HTML preprocessor is your ability to convert to a different site management tool in the future. Even though you may have embedded complex layout and tags, at the point of conversion, a stripped-down and very consistent set of pages can be generated that should load into any product.

Disadvantages

HTML pre-processors are generally only command line tools and do not have a point-and-click interface. This is not a tool for anyone who would rather not see code or cryptic syntax. You have to be comfortable writing HTML with an HTML editor. A major drawback to pre-processor tools is that most HTML editors will not work with their unique tags. Given that the use of HTML preprocessors is uncommon, it's unlikely that anyone else in organization will be familiar with them.

Static templating solutions also lack the power of dynamic solutions. You cannot factor in and adjust the content or HTML based on a user's characteristics in the dynamic way that ASP or SSI permits.

HIGH-END DYNAMIC TEMPLATING SYSTEMS

These solutions have a huge range in price, power, and complexity.

They may be called content management servers, application servers, or intranet-in-a-box. All of these solutions store documents in a back-end database and merge these documents with templates to serve up pages dynamically.

Application servers include tools like Net Objects Cold Fusion. Cold Fusion has a large installed base and has a Windows interface. You will need to invest some time in learning this tool if you're not technically inclined. Cold Fusion is a relatively low-cost solution if you are developing in a Windows environment and have an SQL server. Other tools include PHP (a scripting language) and MySQL (database) or Zope. These solutions definitely require a technical bent and significant learning curve.

Many large-scale intranet sites consider using a content management system such Interwoven's Teamsite, StoryServer, and Dynaweb. These tools are big, powerful, and complicated, and rely on large-scale back-end databases. They are usually installed either by the vendor and/or site programmers who have received special training on how to configure and operate the system.

Advantages

These complex and sophisticated tools are designed to handle many groups of authors who are developing sites together. They have workflow management software and project management tools. If you have skilled developers and a big budget, you can customize them to your particular site's needs.
Disadvantages

High-end dynamic templating solutions are not for every Web site. They are costly to set up and even more costly to migrate beyond. The initial learning curve is steep and the investment is significant. It can take months to get the system up and running. Training will likely be a necessary and major undertaking.

IS TEMPLATING FOR EVERY SITE?

It is hard to think of a site where dynamic templating wouldn't be an immediate benefit. Right now, if your site is small, then static pages created by hand may be the best fit. However, sites grow incrementally and suddenly your "small site" has fifty or more pages. Converting 100 pages, let alone 10,000, can be more work than you anticipated. Even if your site doesn't change a great deal over time, if the content has lasting value you can be certain that you will need to migrate it to a new system.

Adding some simple dynamic templating techniques to your HTML toolbox is a smart choice. Start with some basic templating and learn as you go. By your third or fourth redesign, you'll recognize which parts of your page make sense to separate into different

elements that can be included, excluded, or modified with ease.

[PROGRAM LISTING NOT REPRODUCIBLE IN ASCII]

Darlene Fichter (ficther@lights.com) is president of Northern Lights
Internet Solutions, Ltd.

InfoWorldJan 31, 2000

Monitor Exchange's exchanges - Affordable anti-spam, content filtering.(Mail Essentials for Exchange 3.0)(Software Review)(Evaluation)

Author/s: Gregory Michael

ADMINISTRATORS of corporate e-mail systems must be on guard not only for spam and viruses coming in, but also for proprietary information and other potentially damaging content going out. Mail Essentials for Exchange 3.0 is a collection of tools that provide Microsoft Exchange shops with a means of controlling the e-mail that enters and leaves the internal company e-mail system.

Mail Essentials can function as a gateway between Microsoft Exchange and the Internet. Capable of being administered locally or remotely via the Exchange administrator, Mail Essentials allows content checking for specific users by integrating with the Exchange directory. Competitors in this genre include Content Technologies' Mailsweeper, Elron Software's Message Inspector, and Worldtalk's WorldSecure. Mail Essentials is not as powerful as these solutions, which allow you to set more complex rules for filtering incoming and outgoing messages, but it's much more affordable and provides a good set of tools for the price.

I installed Mail Essentials on an Exchange 5.5 server with Exchange Service Pack 3 installed. The installation and configuration took about 30 minutes from start to finish. The installation was smooth, and the tabbed interface made configuration simple.

I started the configuration process by configuring Mail Essentials to receive e-mail. I pointed Mail Essentials to a POP3 mail server by adding the server to the POP3 Options menu. I then set the options to have Mail Essentials send outgoing mail in the SMTP Options menu. At this time I made the changes necessary to the Microsoft Exchange configuration to allow Mail Essentials to become the gateway between Exchange and the Internet. I finished by configuring various specific options.

Mail Essentials includes several tools for protecting the company's investment in e-mail and proprietary information. The inbound-specific tool capabilities consist of scanning attachments for viruses, archiving inbound e-mail, defeating spam, checking content, and providing auto-reply functionality. Virus scanning requires the installation of a third-party anti-virus package. The anti-spam function provides some good basic protection, but requires the administrator to manually update domains that are known spam originators. (This limitation is supposed to be addressed in a forthcoming service pack.) The content-checking component allows administrators to block specific file extensions on attachments, words, or phrases within the e-mail body, or specific words or phrases in the subject line.

The auto-reply feature is a nice touch. For companies being inundated with e-mail requests from customers visiting their Web pages, the auto-reply feature allows administrators to tailor a specific response to a message depending on the header of the inbound message. The auto-reply can assign a tracking number and send the originator a personalized response and even an attachment, such as a product catalog.

The outbound tool capabilities are virus checking, archiving, compressing attachments, content checking, and placing a disclaimer footer on each outbound e-mail.

The content-checking feature prevents e-mail containing specific words, phrases, or types of attachments from entering or leaving the internal corporate e-mail system. This lets administrators view questionable e-mail to delete or forward the messages as appropriate. Mail Essentials does not provide content checking of internal e-mail that stays within the company e-mail system.

Using the archiving feature, a company can protect itself from having its outbound e-mail tampered with and used against it in a legal action. Inbound e-mail can also be archived, allowing managers to check e-mail sent to specific internal destinations. You can keep a log file of archived messages, and a reporting function allows you to retrieve information from the log file.

Another feature of Mail Essentials is the capability of encrypting and decrypting e-mail at the server -- making this function invisible to the user. Note that this feature requires downloading and installing PGP (Pretty Good Privacy) freeware, Version 5.5.3. The site at which this can be downloaded is included in the Mail Essentials documentation.

Mail Essentials provides a cost-effective compilation of tools to help manage and protect company e-mail. This is a comprehensive package that contains somewhat sophisticated mechanisms for limiting threats to inbound e-mail and preventing specific e-mail content from reaching Internet destinations. If you are planning an upgrade to Exchange 2000, an upgrade of Mail Essentials for

Exchange 2000 is in the works.

Gregory Michael, a former e-mail manager, is now a systems architect in Minneapolis. He can be reached at gjmichael@mediaone.net.

THE BOTTOM LINE: GOOD

Mail Essentials for Exchange 3.0

Summary: This package is a combination of tools that provides effective protection against unsolicited, inappropriate, and proprietary content passing between the corporate mail system and the Internet.

Business Case: Mail Essentials is a cost-effective way to enforce a corporate e-mail policy. Although not as powerful or flexible as competing solutions, it is an effective means of blocking outbound mail that could cause costly lawsuits or security leaks.

Pros:

+ Inexpensive compared to competitors

+ Simple, fast content filtering of e-mail

+ Virus scanning and compression

Cons:

- Does not scan internal e-mail

- Labor-intensive anti-spam feature

- Content-checking rules the same for inbound and outbound mail

Cost: $1,995 for unlimited users

Platform(s): Windows NT 4.0; Microsoft Exchange Server 4.0, 5.0, or 5.5

GFI Fax & Voice USA, Cary, N.C.; (888) 243-4329 (toll-free); www.gfi.com

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 New language could meld the Web into a seamless database
Mackenzie, Dana
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ABSTRACT: A new Web invention called extensible markup language (XML) goes
beyond merely displaying data to making it meaningful for other computers.
The success of XML in the future is discussed.
TEXT:
      The World Wide Web, circa 1998: A chemist wants to know how to perform
a certain reaction. She does a literature search on the Web and copies down
by hand the chemicals she needs. She does another search to find the
vendors who sell those chemicals and jots down their names. She sends a
purchase order to Company A, which pays a clerk to enter the order by hand.
The Web, circa 2000: The chemist enters some words describing the reaction.
An intelligent Web agent finds it and asks her if she wants to order the
reagents. She clicks "Yes," and the Web agent takes care of the rest. A few
days later, she receives her chemicals.
      The key to eliminating the human intervention between the chemist and
her chemicals is a new Web invention called extensible markup language.
XML, developed by a group of technology companies and universities called
the World Wide Web Consortium (W3C), goes beyond merely displaying data-the
strength of hypertext markup language (HTML), the language that currently
dominates the Web-to making it meaningful for other computers.
      In HTML, for example, $CaCO_3$ is nothing more than a set of letters on a
screen. But in XML and related languages, a "tag" can identify it as the
chemical symbol for a compound. On another Web page, the same tag might go
with the words "calcium carbonate," and on a third, with "Catalog Item No.
1311." An intelligent search engine can tell from the tags that they
represent the same compound. Then it can download the accompanying data on,
say, chemical properties or bulk prices, in a form ready for the user's
software to manipulate. Earlier this year, the W3C approved the first
version of XML, and software companies are working on XML-capable browsers.
Ultimately, say Web developers, the language could open the way to "a new
Internet" that would be easier to search and exploit, offer more flexible
formatting of documents, and might even usher in the ballyhooed age of
electronic commerce. As Tim Berners-Lee, the creator of the Web, told the
Los Angeles Times, "Whereas phase one of the Web puts all the accessible
information into one huge book, if you like, in phase two we will turn all
the accessible data into one huge database." For scientists, says Peter
Murray-Rust of the University of Nottingham in England, a contributor to
XML, "I think it will make a major difference. ... For the first time we've
got something capable of managing most of the information we deal with."
      The success of XML, however, will hinge on the ability of professional
societies and others to agree on what kind of information they want to
share and how that information is to be structured, because XML offers far
more latitude to its users than HTML does. Like any markup language, HTML
annotates text with certain instructions or "tags," which a computer
program, such as a Web browser, can spot and act upon. Designed to serve as
a simple lingua franca for the Web, HTML has a very small set of tags, all
of which (at least in early versions of HTML) refer only to the display of
text. The tags <H1 > and <H2>, for example, tell a browser to render the
ensuing text as a main heading or a subheading.
      By contrast, XML allows groups of users to define their own tags. It

does this by prescribing only the syntax of a file (how tags look and how they are used), and not the semantics (what they mean). The tags can, for example, contain information about the text, rather than just about how to display it. In an online bibliography, the title and author of a book could be tagged as <TITLE> and <AUTHOR>, instead of <H1> and <H2>. When a user searched for <AUTHOR> Gates, he would find Bill Gates's The Road Ahead, without wading through spurious links to transistor gates, garden gates, or even articles about Bill Gates.

The new language is actually an adaptation of SGML (for standard generalized markup language), which was developed in the 1980s for technical communication but was vastly too complicated for wide use on the Web. In 1996, Jon Bosak of Sun Microsystems formed a working group in the W3C to simplify SGML for Web use. Although the committee originally envisioned the language as an "SGML Lite," the members eventually realized it was different enough to deserve its own name. Companies that develop Web browsers are now implementing XML in their products. Microsoft's Internet Explorer, for example, already contains an XML parser-a program that separates tags from text-as does the publicly available source code for Netscape Communicator. Parsers make it possible to transfer information from one database to another, but they can't display an XML file on screen. The W3C is now drawing up a format for the additional applications needed to display XML files: "style sheets," which turn tags into formatting instructions.

Of course, no style sheet would be able to handle the Babel of information that would result if users all made up their own tags. For XML to work, common-interest groups will have to agree on a shared vocabulary. "The technology is the small part," says Dan Connolly of the W3C, one of the designers of the new language. "The large part is getting people together to agree." That has already happened in a few cases. Mathematicians, who have long been hamstrung by HTML's inability to handle complex equations, can now post their pages in MathML, a rather straightforward application developed by the W3C in which the XML tags represent mathematical formatting instructions. A more ambitious XML offshoot called chemical markup language (CML) is the brainchild of Murray-Rust, who is a crystallographer as well as a Web expert. CML enables the viewer's computer to meld information stored in separate databases into a seamlessly linked, interactive document, made to order. By clicking on different parts of a CML page on a certain protein, for example, a user can call up windows showing its molecular structure, its sequence, and the structure of a ligand it attaches to. A click on the sequence in one window then lights up the corresponding part of the molecular model in another. Meanwhile, computer scientists are working on the smart browsers and souped-up search engines that will make the fullest use of XML. Such "intelligent agents" would be able to answer queries current search engines can't touch: "Is there a university in a state bordering Virginia with an ROTC program, Japanese classes, and a Computational Biology major?" The answer (University of Maryland) happens to be where one of the first such search engines resides. The experimental browser, developed by computer scientist James Hendler, can make the necessary connections because it works with an advanced markup language in which the XML tags indicate not only meanings but relationships between entities (universities are located in states, and majors are found at universities). Even XML aficionados don't expect to see these kinds of tags popping up on every Web site. For displaying ordinary text documents, HTML is likely to remain the standard, and XML-capable browsers will still be able to read pages written in HTML. But they believe that for specialized Web applications-in science, for example-XML will quickly make converts. "People predicted the Web would fail because no one would want to learn HTML," says Tim Finin, a computer scientist at the Universityof Maryland, Baltimore County. The pessimists were wrong, he notes, and "the same thing will happen with XML." -Dana Mackenzie

(Chart Omitted)

Captioned as: Information on demand. Chemical markup language assembles data from different sources into a single interactive document describing a protein molecule.

Author Affiliation:
Dana Mackenzie is a science and math writer in Santa Cruz, California.
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DESCRIPTORS: World Wide Web; Programming languages
SPECIAL FEATURES: Photograph
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Business Wire March 1, 1999

Diamond Head's Tempest Server Version 2.1 to be Used to Store Over Twenty Million Images.

RICHARDSON, Texas--(BUSINESS WIRE)--March 1, 1999--

Radian's Deployment of Tempest Proves that it is Highly Suitable for

Production Imaging System

Diamond Head Software, the industry leader in software components for document imaging, workflow, document management and storage management, today announced the deployment of version 2.1 of its Tempest Storage Management Server for Windows NT to support a system with over twenty million images.

The Tempest Server provides high performance storage management and retrieval services for document imaging and document management applications.

The Tempest Server addresses the need for fault-tolerant storage management that is natively integrated with Windows NT, and which can scale from departments all the way to enterprises with tens of thousands of users across the enterprise. It provides easy integration with customized solutions, vertical software applications, and several EDM applications. It also works off-the-shelf with DOCS Open from PC DOCS, an industry leader in document management, and it has also been integrated with DOCSFusion 3.0, which is scheduled to ship next year.

"The demand for Tempest has exceeded our projections because integrators and ISV's who have used drive letter interface products, have immediately recognized the features and performance advantages that we offer over these other products," says William L. Burke, president of Diamond Head Software. "When Tempest is deployed with DOCS Open, or with a custom imaging or EDM application, the integrated system quickly and cost-effectively solves the needs of users that formerly required an expensive 'production

imaging' system."

Radian International Lauds Superior Performance And Ease Of Administration

Radian International is one of the first companies to deploy Tempest in a production setting. It is using Tempest to provide very efficient storage management services for a DOCS Open system that is in use by the Department of Real Estate of a Western state. Radian is in the process of converting an existing A.B. Dick microfiche system with over twenty million images, into a DOCS Open /Tempest system. "Tempest is the only storage management product available with the features and performance that would help our client succeed," says Ken Hill, Director of Radian's Solution Integration Group. "This installation demonstrates that a document management system with integrated storage management capabilities can solve image management issues of statewide proportions."

Windows NT Integration

The Tempest Server takes full advantage of the Windows NT operating system and is implemented as a native NT Service, providing security at the console and tight integration with Windows NT not found in other optical servers. The Tempest Server fully supports Windows NT's Performance Monitor and Event Viewer, providing the network administrator with standard Windows NT tools for monitoring the server's activities and logging of all error events. The Tempest Server offers the price and open systems advantages of a Windows NT-based system with the scalability and advanced features that customers have expected only from FileNET and similarly higher priced solutions.
Scalability

Diamond Head employs technologies such as server clustering and intelligent, dynamic data management techniques to dramatically increase the number of concurrent users that can access the server. The Tempest Server is appropriate for departments with 50 users or can be configured to support enterprise systems with tens of thousands of users.

"The demand for scalable, distributed image and electronic document storage management is increasing dramatically as companies deploy compound document management services across business functions," said David Yockelson, vice president of META Group. "Diamond Head's Tempest Server addresses this requirement while leveraging NT platform features and ImageBASIC's robust customizability."

Tempest Integration with DOCS Open Creates FileNET Panagon

Competitor

Working closely together with PC DOCS, Diamond Head has natively integrated Tempest with DOCS Open v.3.7.2. The combination of DOCS Open, DOCS Imaging (developed by Diamond Head for PC DOCS using its ImageBASIC development environment) and Tempest not only is a direct competitor to FileNET's Panagon IDM Services and Panagon Document Services, it offers functionality not available from FileNET now or in the foreseeable future. For example, Tempest provides storage management services for both electronic documents and digitized documents, and both are managed by a single index, DOCS Open. Panagon IDM has an index for image documents and manages optical jukeboxes. Panagon Document Services uses an entirely different index to manage electronic documents, and does not support optical jukeboxes. With DOCS Open / Tempest there is a single unified system.

Doculabs Declares Tempest Sets Benchmark for Performance and Architecture

Doculabs, an independent analyst firm based in Chicago, published a report on Near Line Storage in May 1998. In this report, Doculabs evaluated and compared Tempest with other market leaders in the storage management arena. Of the vendors that participated in the study (including Optical Technology Group and Micro Design International), Doculabs determined that Tempest set the benchmark in the areas of architecture and performance. In one test scenario measuring performance with 10 concurrent users on the system retrieving 1 MB files, Tempest took 1 minute seconds, OTG DiskExtender took 5 minutes 0.16 seconds and MDI's SCSI Express for NT took 8 minutes 6.29 seconds. Tempest was also the only product in the study that successfully completed a 20-client scenario without the aid of caching." Tempest represents a significant step forward both in the size of systems that can be efficiently supported under Windows NT, and the levels of performance that can be achieved using optical jukeboxes as near-line storage," Says Dhaval Joshi, analyst at Doculabs. The complete Tempest section from the Doculabs report and various comparison charts are available for download from Diamond Head's Web site: www.dhs.com. The complete Doculabs report is available directly from Doculabs: www.doculabs.com.
Diamond Head Targets ISV's and Integrators Who Have Used Other Products

Tempest was developed to meet the needs of developers who require the fastest performing, and most highly scalable storage management services, in a package that is easily integrated into their custom vertical solutions. Many ISV's and systems integrators who have previously used drive letter emulation products are looking for a product like Tempest that addresses and solves the limitations that drive letter products share: inability to natively integrate with applications, poor and inconsistent performance, plus the inability to

scale to large numbers of users on the same NT server. Tempest offers native integration with custom solutions using an ActiveX Control or DLL, provides superior security at the file and folder level and is massively scalable. Diamond Head has instituted a Tempest 911 Program in conjunction with its distributor, Law Cypress, offering high levels of support, integration and customization services, to system integrators currently in trouble with a project that has significant storage management requirements.

Pricing and Availability

Tempest 2.1 is available now from authorized distributors and resellers, and from Diamond Head Software directly. Tempest 2.1 is priced in accordance with the amount of storage that is being managed; there is no separate client access license. Tempest Server costs $7.500 and includes support for up to 100 GB of storage. The Tempest Development Toolkit costs $5,000 and includes the ActiveX Controls necessary to integrate Tempest into custom applications. The Tempest Toolkit also includes a jukebox emulator that enables users to test Tempest with their application without an optical jukebox. Future releases will add support for large tape libraries, distributed cache management and advanced RAID management.

About Diamond Head

Diamond Head Software, Inc. is the industry's leading provider of ActiveX Controls, customizable applications and storage management solutions for document imaging, document management, COLD, and workflow. Diamond Head's ImageBASIC development environment has been named Product of the Year by Imaging Magazine four years in a row, and has been used to develop applications currently in use by over 200,000 users. The company is headquartered in Richardson, Texas, and has offices in New York and California.

About Radian

Radian International LLC provides an array of integration services and technologies to industries and governments worldwide. For more information about the project described in this release, please contact Radian Solutions Integration Group -- Ken Hill at 423/220-8120 or via e-mail at ken_hill@radian.com.

Note to Editors: Tempest is a trademark of Diamond Head Software, Inc. Other company and product names are trademarks or registered trademarks of their respective holders.

Organize files on your Internet or intranet server for distribution. (Mustang Software Fil((Software Review)(Brief Article)(Evaluation)

Author/s: Mike Heck

Web file cataloging application

FileCenter 1.0

Mustang Software's FileCenter 1.0 is an essential product for Webmasters wanting to easily distribu collect) numerous files using a Web site. This package overcomes the time-consuming job of manu file links within HTML documents -- and provides automatic file cataloging not available with FTP se

Designed for use with Microsoft's Internet Information Server 3.0, FileCenter creates a Microsoft A(compatible database of each file in the library. Next, FileCenter indexes all words found in these do (using Microsoft Index Server), then creates Active Server Pages to display files matching a user's request. Lastly, FileCenter handles file downloading.

I started with FileCenter's Explorer -- which is modeled after the standard Windows Explorer -- and created file groups, added content, and modified the properties of individual file records. File detail long and short file names, download counts, plus the uploader's name and e-mail address.

I was pleased that FileCenter let me point to files both on my FTP server and other FTP sites. So it' to consolidate file libraries spread over multiple intranet servers.

FileCenter's Web interface is created from customizable HTML template files. I quickly modified the footer, and body style of pages. Additionally, the system's ActiveX controls can be customized by tl with Visual Basic or Visual C++.

Rather than asking the Web server to dynamically create each page as it is requested, you periodic FileCenter's Web Generator. It uses information in the database plus your HTML templates to build pieces of the Web interface. This approach frees the Web server to handle requests you cannot ant beforehand.

FileCenter had a very fast performance on a single-processor, 200-MHz Pentium PC, with 64MB of I interface is very clean and easily navigated.

Also, FileCenter accepts uploads via Microsoft Internet Explorer 3.0 and Netscape Navigator 2.0 (c case, FileCenter automatically catalogs the file and runs Network Associates' McAfee Virus Scan or Norton AntiVirus (if installed). Further, uploads can be first placed in a "holding area" for review.

In the end, FileCenter provides an easy-to-use method to index, search, and distribute files -- and time to administer.

* Mustang Software Inc., Bakersfield, Calif.; (805) 873-2500; http://www.mustang.com; $999.